

WE CLAIM:

1. A solid support for performing a plurality of polynucleotide amplification reactions wherein a releasable primer for each amplification reaction is immobilized on an area of the surface of said solid support.

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2. A system for amplifying a plurality of target nucleic acids, comprising:

(a) a first solid support wherein

(1) the surface of said first solid support comprises a plurality of derivatized areas;

10 (2) a primer for each target nucleic acid or a sequence complementary to said primer is immobilized on a derivatized area of the first solid support; and

(b) a second solid support wherein said second solid support comprises a plurality of wells and each well corresponds to a primer for each target nucleic acid.

15 3. A system for amplifying a plurality of target nucleic acids, comprising:

(a) a first solid support wherein

(1) the surface of said first solid support comprises a plurality of derivatized areas;

(2) a forward primer for each target nucleic acid or a sequence

20 complementary to said forward primer is immobilized on a derivatized area of the first solid support

(3) a reverse primer for each region of said target nucleic acid or a sequence complementary to said reverse primer is immobilized on another derivatized area of the first solid support;

25 (b) a second solid support wherein said second solid support comprises a plurality of wells and each well corresponds to the forward and reverse primers for each target nucleic acid.

30 4. The system according to any one of the claims 2-3, wherein said plurality of target nucleic acids are a plurality of subsequences of a polynucleotide.

5. The system of any one of claims 2-3, wherein said first or second solid support is glass.

6. The system according to any one of claims 2-3 wherein said immobilization is covalent.

7. The system according to any one of claims 2-3 wherein said 5 immobilization is non-covalent.

8. The system according to any one of claims 2-3 wherein said primer is covalently linked to a cleavable moiety.

10 9. The system according to claim 8 wherein said cleavable moiety is cleavable by photolysis.

10. The system according to any one of the claims 2-3 wherein the surface of said first solid support comprises a plurality of hydrophilic areas.

15 11. The system according to any one of the claims 2-3 wherein the density of the derivatized areas on said first solid support is between about 10 to 10,000 per cm².

20 12. The system according to any one of the claims 2-3 wherein the size of said derivatized area on said first solid support is between about 10⁻³ to 5 mm².

13. The system according to any one of the claims 2-3 wherein the number of derivatized areas on said first solid support is between about 10 to 500,000.

25 14. The solid support of claim 1 wherein said releasable primer is releasable by strand separation.

15. The solid support of claim 1 wherein said releasable primer is releasable by photolysis.

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